

A note on the haploid chromosome number
of *Brenthis ino* ROTTEMBURG, 1775 from Finland
(Lepidoptera, Nymphalidae)

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Summary

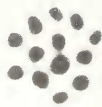
The haploid chromosome number, 13, was ascertained in male *Brenthis ino* from Porvoo, Finland, whereas in Japanese specimens an n , 14-karyotype was characteristic.

The lesser marbled fritillary, *Brenthis ino*, has a wide area of distribution from Europe to Japan. Previously, germ-line chromosomes of Finnish specimens were examined by FEDERLEY (1938) and the haploid chromosome numbers of 12 and 13 were recorded for their males and those of 13 and 14 for their females. In contrast, males of both *B. ino mashuensis* and *B. i. tigroides* occurring in Japan were uniform in having fourteen haploid chromosomes (MAEKI 1961 ; SAITOH *et al.*, unpublished). From a standpoint of cytotaxonomy, necessity inevitably arises to determine the exact haploid number of the Finnish specimens. Recently, through the courtesy of Prof. Esko SUOMALAINEN of the Department of Genetics in the University of Helsinki, I have had the opportunity to re-examine spermatocyte chromosomes of *B. ino* from southern Finland and some findings obtained are outlined below.

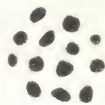
Testes of five adults, caught at Porvoo in the summer of 1984, were fixed by Prof. SUOMALAINEN with Allen's P.F.A.-3 mixture and those of five other adults with Carnoy (6 : 3 : 1), respectively. Testis-sections (8 μ m) were prepared by the ordinary paraffin method. Slides of the P.F.A.-3-fixed testes were stained with Heidenhain's iron-haematoxylin and those of the Carnoy-fixed ones by the Feulgen method.

Metaphase plates suitable for the determination of the haploid chromosome number were found in two of the former testes, as well as in two of the latter ones. Counts were made in a total of 64 metaphase spermatocytes from these four : 44 (MI ; 36, MII ; 8) from the former two and 20 (MI ; 16, MII ; 4) from the latter two.

Thirteen chromosomes of the dot-shape in haploid conditions were consistently observed in each of them (figs. 1 and 2). In view of these results, it was concluded that the haploid chromosome number in the Porvoo males was 13.



1



2

Figs. 1 and 2. Bivalent chromosomes (n , 13) of male *Brenchis ino* from Porvoo, Finland. Haematoxylin-stained. Each metaphase is from different primary spermatocyte. Bottom bar represents about 5 μ m.

On the contrary, as stated above, an n , 14-karyotype was characteristic of the two subspecies of Japan. This difference in the haploid chromosome number might be an indication of a complicated cytogenetic nature of this species. Therefore, a further chromosomal inquiry is necessary of its various geographic populations.

In closing this short note, I must express my thanks to Professor Esko SUOMALAINEN for his kind aid in securing the testis-materials of Finnish specimens.

References

- FEDERLEY, H. 1938. Chromosomenzahlen finnländischer Lepidopteren. I. Rhopalocera. *Hereditas*, 24 : 397-464.
- MAEKI, K. 1961. A study of chromosomes in thirty-five species of the Japanese Nymphalidae (Lepidoptera-Rhopalocera). *Jpn. J. Genet.*, 36 : 137-146. (In Japanese with English résumé).